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PATENT

REMARKS

The Examiner objected to the abstract because of the use of "be they" in the second line. Applicant has amended the abstract herein to address this objection.

Claims 1-22 are pending in the application.

The Examiner has cited MPEP 2136.01 as support for a provisional rejection under 35 U.S.C. §102(b)/103(a), noting that "it is permissible to provisionally reject a later application over an earlier filed, and unpublished, application under 35 U.S.C. §102(e) when *>there< is a common assignee or inventor." Applicants respectfully submit that this statement is modified by the second paragraph of MPEP 2136.01, subsection II which states:

For applications filed on or after November 29, 1999>or pending on or after December 10, 2004<, a provisional rejection under 35 U.S.C. *103 >(a) using prior art under 35 U.S.C. §102(e)< is not proper if the application contains evidence that the application and the prior art reference were owned by the same person, or subject to an obligation of assignment to the same person, at the time the invention was made.

The present application was filed on February 16, 2001, clearly after November 29, 1999 and is currently pending. The Examiner has cited Dohrmann et al (U.S. Patent Number 6,560,570), hereinafter "Dohrmann" as the basis for a rejection under 35 U.S.C. §102(e). The present application is under obligation of assignment to Sandia

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Corporation. There is clear evidence of the obligation to assign to Sandia Corporation in the present application including, but not limited to, all correspondence is directed to Sandia Corporation and all fees are being paid from the deposit account of Sandia Corporation. The assignee for Dohrmann is also Sandia Corporation; this is on the face of the issued patent. The subject matter relied upon by the Examiner and the present invention were subject to common assignment at the time the invention was made. Therefore, it is improper to provisionally reject the present application using Dohrmann. Applicants respectfully request withdrawal of all the rejections based on Dohrmann as prior art.

Claims 1, 4, 6, 12, 15, and 17 stand rejected under 35 U.S.C. §102(e) as being anticipated by Dohrmann. As discussed above, Dohrmann and the present invention were, at the time the invention was made, subject to an obligation of assignment to a common assignee, Sandia Corporation and the present application was filed after November 29, 1999 and is pending after December 10, 2004. Therefore, it is improper to reject the present application using Dohrmann. Applicants respectfully submit that Claims 1, 4, 6, 12, 15, and 17, and any claims that depend therefrom, are in allowable form and requests reconsideration.

Claims 2, 3, 13, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dohrmann in view of Staten et al (Staten et al, "BMSweep: Locating Interior Nodes During Sweeping", Proceedings of the 7th International Roundtable 98, pages 7-18, October 1998), hereinafter referred to as "Staten," and Applicants Own Admission, hereinafter referred to as "AOA." As discussed above, Dohrmann and the present invention were, at the time the invention was made, subject to an obligation of

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assignment to a common assignee, Sandia Corporation and the present application was filed after November 29, 1999 and is pending after December 10, 2004. Therefore, it is improper to provisionally reject the present application using Dohrmann. Applicants respectfully submit that Claims 2, 3, 13, and 14, and any claims that depend therefrom, are in allowable form and request reconsideration.

Claims 5 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dohrmann as applied to claims 1 and 12 and further in view of Blacker. As discussed above, Dohrmann and the present invention were, at the time the invention was made, subject to an obligation of assignment to a common assignee, Sandia Corporation and the present application was filed after November 29, 1999 and is pending after December 10, 2004. Therefore, it is improper to provisionally reject the present application using Dohrmann. Applicants respectfully submit that Claims 5 and 16, and any claims that depend therefrom, are in allowable form and requests reconsideration.

Claims 7, 8, 9, 11, 18, 19, 20, and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dohrmann as applied to claims 1 and 12 and further in view of White ("Automatic, Quadrilateral and Hexahedral Meshing of Pseudo-Cartesian Geometries using Virtual Decomposition," Master's Thesis, Brigham Young University, August 1996), herein referred to as "White." As discussed above, Dohrmann and the present invention were, at the time the invention was made, subject to an obligation of assignment to a common assignee, Sandia Corporation and the present application was filed after November 29, 1999 and is pending after December 10, 2004. Therefore, it is improper to provisionally reject the present application using Dohrmann. Applicants

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respectfully submit that Claims 7, 8, 9, 11, 18, 19, 20, and 22, and any claims that depend therefrom, are in allowable form and requests reconsideration.

Claims 4-11 and 15-22 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. The Examiner specifically lists: determining the boundary of boundary surface, determining a 1-dimensional mesh at least twice as fine as the first trunk mesh, identifying pairs of nodes, moving a node from each pair to boundary, highest quality mesh elements, determining which node of each pair is closest to the boundary, and determining if the boundary spans the diagonal. Applicants respectfully submit that these limitations are described in the specification with sufficient detail to enable one skilled in the art to practice the invention. Applicant respectfully submits that the "boundary surface" and its boundaries are clearly and sufficiently described in the specification on page 5, lines 18-19, as the intersection of the trunk and branch. One skilled in the art would be able to recognize the intersection of the trunk and branch both from the description in the specification and the figures, particularly Figure 1, thereby determining the boundary of the boundary surface. Applicants also submit that the first trunk mesh and its characteristics have been clearly and sufficiently described in the specification on page 6, lines 15-17 and line 23 and that once the fineness described in the specification (able to resolve all small features of the trunk and graft/boundary surface) has been achieved in the first trunk mesh it is a simple matter to divide that fineness in half to make the determination of a 1-dimensional mesh. Further, Applicants submit that the "pairs of nodes" are identified based on their existence on the first trunk mesh at points discernable by the intersection (identified by

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using a simple three-dimensional intersection routine as known to those skilled in the art) of the 1-dimensional mesh with the first trunk mesh, as described in the specification beginning on page 6, line 25 and continuing onto page 7, in conjunction with Figure 2. One skilled in the art would be able to identify node pairs both from the description in the specification and the figures, particularly Figure 2. The specification, continuing from page 7, line 4, under the heading of SMOOTHING THE MESH TO THE LOOP, in conjunction with Figure 3, describes moving nodes from the determined pairs to the boundary. Quality factors relating to the mesh elements are given throughout the specification and incorporated references. Ways to improve the quality are described in the specification beginning on page 8; these quality improvements also provide insight into the measurement of the quality. Some examples of the achievement of high quality through the use of the present invention are illustrated in Figure 7 (page 9, lines 13-15) and Figure 10 (page 9, lines 19-23). Applicants respectfully submit that the determination of closeness to one object to a second object (such as the closeness of a node to a boundary) is a matter of measurement and/or observation, as is the determination of whether or not a boundary spans the diagonal (as can be ascertained from the specification on page 7, lines 11-12, in conjunction with Figure 3.). One skilled in the art would be able to determine the closeness of a node to a boundary both from the description in the specification and the figures, particularly Figure 3. For these reasons, Applicants respectfully submit that Claims 4-11 and 15-22, and any claims that depend therefrom, are allowable.

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In view of the foregoing, Applicants respectfully submit that Claims 1-22 are allowable and request notice to that effect. Further and favorable consideration is respectfully requested.

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Respectfully submitted,


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